

1. (canceled)

2. (previously presented) A method of transmitting data packets comprising:

identifying a priority of each packet of a plurality of packets to be transmitted;

selectively transmitting higher priority packets before transmitting lower priority packets of the plurality of packets;

receiving the transmitted packets;

smoothing the received data packets; and

playing-out the smoothed packets,

wherein, the step of selectively transmitting is performed by calculating a probability of higher priority packets being delivered prior to play-out times for the higher priority packets and transmitting a packet only if this probability is greater than a set threshold

the method comprising the additional step of:

determining whether sufficient time remains before a scheduled play-out time of a previously not transmitted packet and, if so, transmitting the previously not transmitted skipped packet.

3. (canceled)

4. (canceled)

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8. (canceled)

9. (cancel)

10. (canceled)

11. (cancel)

12. (cancel)

13. (canceled)

14. (canceled)

15. (canceled)

16. (canceled)

17. (canceled)

18. (canceled)

19. (previously presented) A system for data packet transmission, the system comprising:

a central transmission unit including a unit controller coupled to a unit buffer and a unit transceiver, the unit buffer also being coupled to the unit transceiver, the unit buffer storing a plurality of data packets for selective transmission by the unit transceiver;

a transmission channel that carries the plurality of data packets transmitted by the unit transceiver,

wherein, the unit controller controls selective transmission of the plurality of data packets from the unit transceiver along the transmission channel to client equipment and determines whether sufficient time remains before a scheduled play-out time of a previously not transmitted packet and, if so, controls the unit transceiver and unit buffer to transmit the previously not transmitted skipped packet.

20. (canceled)

21. (canceled)

22. (canceled)

23. (canceled)

24. (new) The method of transmitting data packets of claim 2, wherein the step of selectively transmitting is performed based on channel conditions of channels upon which the data packets are transmitted.

25. (new) The method of data packet transmission of claim 2, wherein the step of smoothing the received data packets includes storing the received packets in a smoothing buffer and generating a transmission schedule, which includes the rates at which the data packets will be played-out.

26. (new) The method of data packet transmission of claim 4, wherein generating the transmission schedule is performed based on a size of a buffer that will store received packets, available bandwidth and allowed play-out delay.

27. (new) The method of data packet transmission of claim 4, wherein the transmission schedule is designed so that the smoothing buffer does not overflow or underflow during play-out of the received data packets.

28. (new) The method of data packet transmission of claim 2 wherein the step of

selectively transmitting performs transmission over wireless channels.

29. (new) The method of data packet transmission of claim 2, wherein the set threshold is between 0.7 and 0.9.

30. (new) The system for data packet transmission of claim 19, wherein the plurality of data packets are video data packets.

31. (new) The system for data packet transmission of claim 19, wherein the client equipment comprises: a client transceiver that receives the selectively transmitted data packets from the unit transceiver along the wireless transmission channel; a client equipment controller coupled to the client transceiver to control reception of the data packets; a client smoothing buffer that stores the data packets under the control of the client equipment controller, a client smoothing buffer being coupled to the client equipment controller; and a client data play-out mechanism that plays-out the data packets from the client smoothing buffer under the control of the client equipment controller, the client data play-out mechanism being coupled to the client equipment controller.

32. (new) The system for data packet transmission of claim 31, wherein the unit controller generates the transmission schedule based on a size of the client smoothing buffer, available transmission channel bandwidth and allowed play-out delay.

33. (new) The system for data packet transmission of claim 19, further comprising:

a server that provides the plurality of data packets;

a wired channel coupled to the server that carries the plurality of data packets to a wired network from the server, the wired channel also being coupled to the central transmission unit to provide the plurality of data packets to the central transmission unit for transmission to the client equipment.

34. (new) The system for data packet transmission of claim 19, wherein, the unit controller controls selective transmission of the data packets by calculating a probability of higher priority packets being delivered prior to play-out times for the higher priority packets and transmitting a packet only if its probability is greater than a set threshold.

35. (new) The system for data packet transmission of claim 19, wherein the unit controller controls selective transmission by the unit transceiver based on conditions of the wireless channel upon which the data packets are transmitted.

36. (new) The system for data packet transmission of claim 19, wherein the controller generates a transmission schedule, which includes the rates at which the data packets will be played-out by the client equipment.

37. (new) The system for data packet transmission of claim 19, wherein the set threshold is between 0.7 and 0.9.